

The Arab League
Council of Arab Health Ministers
The ARAB BOARD OF HEALTH SPECIALIZATIONS
Scientific council of Anesthesia

FINAL EXAM - Paper ONE
26 August 2013
9 - 11 A.M.

NAME:

NUMBER:

CENTER:

INSTURCTIONS FOR THE EXAM

1. Mark your number and write your name
2. Be sure to give all papers (questions & answers sheets) to the supervisor before you leave the exam room. Any missing paper may oblige us to cancel your examination.
3. Time allowed: **TWO HOURS**.
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This paper consists of 75 multiple-choice questions. There is only one correct answer for each question. Select the single most appropriate answer and mark it on the answer sheet.

GOOD LUCK

1. All of the following is seen in patients with hemorrhagic shock EXCEPT:

- A. Physiological dead-space is increased
- B. Renal blood flow is decreased
- C. Antidiuretic hormone (ADH) secretion is increased
- D. The oxygen dissociation curve is shifted to the left
- E. Oxygen delivery is decreased.

2. Increased left ventricular end-diastolic pressure:

- A. Causes increased compliance of the left ventricle
- B. Causes decreased tension in left ventricular wall
- C. Causes decreased left ventricular stroke work index
- D. Occurs in mitral stenosis
- E. Decreases coronary blood flow

3. All of the following are seen early sepsis syndrome, EXCEPT:

- A. Cardiac output is normal
- B. A decreased white cell count is a poor prognostic sign
- C. ACTH levels are low
- D. Insulin is raised
- E. PaO₂ is lowered

4. The elimination half life of carbon monoxide when breathing 100% oxygen at (2) ATM atmospheric pressure is approximately:

- A. 150 minutes.
- B. 120 minutes.
- C. 90 minutes.
- D. 60 minutes.
- E. 30 minutes.

5. With regard to the gut and multiple organ failure, one is true:

- A. High gastric intramural PH is a bad prognostic feature
- B. Administration of broad spectrum antibiotics invariably diminishes bacterial invasion through gut
- C. Splanchnic hypoperfusion is characteristic .
- D. Debutamine is more beneficial than Noradrenaline
- E. Nitric oxide therapy will increase pathogenic invasion

6. One of the following would make diagnosis of brain death unacceptable:

- A. Residual activity on an EEG
- B. Limb movement
- C. Pupils fixed but not widely dilated
- D. No pupil reaction in response to irrigation of the ipsilateral ear with ice- cold water .
- E. Normothermia

7. True statements regarding autonomic hyperreflexia include all of the following EXCEPT

- A. Autonomic hyperreflexia occurs in approximately 70% of quadriplegic patients.
- B. For full blown paroxysmal hypertension to develop, the spinal cord lesion must be above T5.
- C. Autonomic hyperreflexia is manifested by acute generalized sympathetic hyperactivity.
- D. Autonomic hyperreflexia can be triggered by manipulation of the genitourinary tract.
- E. Spinal, but not epidural blockade is effective in preventing autonomic hyperreflexia.

8. A nasogastric tube is sited in a patient ventilated in the critical care unit. Which one of the following is considered the **MOST ACCURATE** way of confirming correct positioning?

- A. Measurement of the aspirate using pH indicator strips
- B. Auscultation of air insufflated through the nasogastric tube (the ‘whoosh’ test)
- C. Testing the acidity/alkalinity of aspirate from the nasogastric tube using litmus paper
- D. Observing the appearance of the aspirate from the nasogastric tube
- E. Chest radiograph

9. The therapeutic range of magnesium in the plasma in order to prevent eclamptic seizures is between:

- A. 2-4 mg /dl
- B. 6-8mg/dl
- C. 12-14mg/dl
- D. 14-18mg/dl
- E. 18-20mg/dl

10. All of the following stress factors are responsible for increasing energy expenditure and caloric requirements in the ICU **EXCEPT**:

- A. Surgery.
- B. Mechanical ventilation
- C. COPD
- D. Long bone fracture
- E. Infection

11. One of the following is true about the arterio-venous O₂ difference:

- A. Is increased in sepsis.
- B. Is increased when the balloon of a pulmonary artery catheter is inflated.
- C. Is increased in cyanide toxicity.
- D. Is increased in low cardiac output states.
- E. Is normally 10 ml O₂/dl

12. The first step in management of anaphylaxis should include all of the following **EXCEPT**:

- A. All pre-existing drugs, therapy and surgery should stop if possible
- B. Call to help should be sought.
- C. 100% oxygen should be administered
- D. Consideration given to securing an airway by intubation in case of angio-oedema.
- E. Adrenaline is the drug of choice given bolus 1mg IV

13. All of the following are true concerning anaphylaxis **EXCEPT**:

- A. Bronchospasm will occur in more than 90% patients
- B. Bronchospasm may be the only presenting feature
- C. Disseminated intravascular coagulation (DIC) may occur
- D. More than 10% of reactions involve upper airway oedema
- E. Cardiovascular collapse may be the only clinical feature

14. The following are recognised complications of massive transfusion of stored blood **EXCEPT**

- A. Hyperkalaemia
- B. Tetany
- C. Hypothermia
- D. Microaggregate formation and acute lung injury (TRALI)
- E. Reduced oxygen delivery due to increase 2,3 DPG levels

15. Radiographic enlargement of the pulmonary artery is seen in all the following EXCEPT

- A. Pulmonary stenosis
- B. Heart failure
- C. Mitral stenosis
- D. Increased pulmonary blood flow
- E. Increased pulmonary vascular resistance

16. Which of the following commonly occur in pulmonary embolism

- A. Left bundle branch block
- B. Dyspnoea
- C. Raised systolic blood pressure
- D. Bradycardia
- E. Cannon waves in the JVP

17. A 62 year old male, is brought to the ICU after a cardiopulmonary bypass surgery. Upon entry to the ICU he had the following parameters:

HR= 90 BP=125/75 PAOP=12 and CVP= 6.

After 30 min. the parameters became as follows:

HR=120 BP=80/30 PAOP=25 and CVP=8.

The most likely reason for this hemodynamic change is:

- A. Anaphylactic reaction
- B. Ventricular ischemia
- C. Pneumothorax
- D. Pulmonary oedema
- E. Hypovolemia

18. Catastrophic pulmonary vasoconstriction secondary to protamine reaction is treated by all of the following EXCEPT:

- A. Deepening the anesthesia
- B. Milrinone
- C. Nitroglycerine
- D. Inhaled NO
- E. Sildenafil

19. The following parameters were obtained in a male patient after a cardiac surgery:

HR= 65/min

Pulmonary vein [O₂] = 0.24 ml O₂ /ml

Pulmonary artery [O₂] = 0.16 ml O₂ /ml

Whole blood O₂ consumption = 500ml/min

The patients Cardiac Output is:

- A. 1.65 l/min
- B. 4.55 l/min
- C. 5 l/min
- D. 6.25 l/min
- E. 8 l/min

20. The commonest site of primary intimal tear in acute dissection of the aorta is:

- A. Ascending aorta
- B. Isthmus of descending aorta
- C. Aortic arch
- D. Infra renal abdominal aorta
- E. Supra renal abdominal aorta

21. Pulmonary arterial hypertension may be caused by all of the followings EXCEPT:

- A. Patent ductus arteriosus
- B. Pulmonary regurgitation
- C. Mitral stenosis
- D. Recurrent pulmonary emboli
- E. Hypoxemia.

22. Six hours after thoracotomy for esophageal resection, all of the following are true EXCEPT:

- A. Vital capacity is reduced
- B. FRC is reduced
- C. Peak expiratory flow is reduced
- D. Mixed venous saturation is reduced
- E. PaO₂ on air is reduced.

23. Lung compliance is increased in one of the following:

- A. The presence of intra-alveolar fluid
- B. ARDS
- C. Idiopathic pulmonary fibrosis
- D. Emphysema
- E. Fibrosing alveolitis.

24. All of the followings are true concerning post pneumonectomy pulmonary edema EXCEPT:

- A. Occurs in 2-4% after pneumonectomy
- B. Mortality occur in 50% of the cases
- C. Occurs more after right pneumonectomy
- D. Is not associated with an increase in pulmonary artery pressure
- E. It occurs in the immediate post operative period, and resolves if ever within 48hrs.

25. During one-lung anaesthesia the following influence the arterial PO₂ EXCEPT:

- A. Hemoglobin concentration
- B. Airway pressure
- C. The degree of perfusion of the non-ventilated lung
- D. Inspired oxygen concentration
- E. Blood pressure.

26. To measure right to left shunt the followings are needed EXCEPT:

- A. End capillary PO₂
- B. Mixed venous PO₂
- C. Arterial PO₂
- D. Cardiac output
- E. Oxygen saturation

27. Sympathectomy may be used in the treatment of all of the followings EXCEPT:

- A. Reynaud's disease
- B. Causalgia
- C. Hyperhydrosis
- D. Venous ulcers
- E. Pain of intermittent claudication

28. All of the following are true about celiac ganglion location EXCEPT:

- A. On the body of the 13th vertebra
- B. In front of the aorta
- C. On the crura of the diaphragm
- D. Behind the inferior vena cava
- E. Behind the pancreas

29. All of the following are true about Phaeochromocytomas EXCEPT:

- A. Are noradrenaline secreting tumors
- B. Can occur anywhere along the sympathetic chain
- C. Are usually benign
- D. Always unilateral
- E. Produce excessive amounts of adrenaline

30. Nerve injury in relation to anesthesia is most likely to occur in the distribution of the:

- A. Supraorbital nerve
- B. Mental nerve
- C. Ulnar nerve
- D. Median nerve
- E. Radial nerve

31. ONE of the following surgical incisions is associated with the highest risk for postoperative pulmonary complications:

- A. Vertical laparotomy
- B. Horizontal laparotomy
- C. Lateral thoracotomy
- D. Median sternotomy
- E. Cholecystectomy

32. All the following are true of Mendelson's syndrome EXCEPT:

- A. Critical volume of aspirate is 30 ml
- B. Critical pH of gastric aspirate is 2.5
- C. Onset of symptoms generally occur within 30 minutes
- D. Steroid have been shown to improve outcome
- E. pH is more critical determinant of lung injury than volume of aspirate

33. A man collapses 72 hours after a total gastrectomy. The following measurements are made: Temperature 39 C, Blood pressure 80/30 mmHg, Pulse 110 /min, CVP +2 mmHg; The diagnoses may include:

- A. Septicemia
- B. Myocardial infarction
- C. Atelectasis
- D. Tamponade
- E. Hemorrhage

34. The following may predispose to the development of respiratory distress syndrome in the neonate EXCEPT:

- A. Premature birth
- B. Maternal diabetes
- C. Antepartum hemorrhage
- D. Pre-eclampsia
- E. Congenital heart disease in the fetus

35. The following are features of Reye syndrome EXCEPT

- A. Cerebral edema
- B. Splenomegaly
- C. Hypoglycemia
- D. Respiratory alkalosis
- E. Hyperactive tendon reflexes

36. Nephroblastoma (Wilms tumor) one is false:

- A. Accounts for about 10% of solid tumors in children
- B. May be asymptomatic
- C. Is a recognized cause of hypertension in children
- D. May be associated with hyperkalaemia
- E. Mainly occurs in children under the age of 4

37. Regarding a patient with severe burns, all are true EXCEPT:

- A. Dangerous rises in serum potassium may occur
- B. A catabolic state exists for several days
- C. An arm represents 9% of the body surface area
- D. Half of the fluid replacement should be given as blood
- E. Hyperglycemia requiring insulin may occur

38. With regard to day case anaesthesia:

- A. High-risk patients in physical status groups III and IV should always be excluded
- B. It is not suitable for morbidly obese patients without systemic disease
- C. It is not suitable for patients over 70 without systemic disease
- D. Ondansetron is preferable to droperidol as an antiemetic
- E. Recovery is quicker with isoflurane than with desflurane

39. Drugs with anti-emetic activity, one is true:

- A. Must cross the blood-brain barrier to be effective
- B. Include agents which are selective dopamine d₁ receptor antagonists
- C. Include histamine h₁ receptor agonists
- D. Are ineffective orally
- E. Include propofol

40. All of the following are associated with a higher incidence of postoperative nausea and vomiting EXCEPT:

- A. History of motion sickness
- B. Pain
- C. Obesity
- D. Smoking
- E. Female gender

41. The following statements regarding LASER are true EXCEPT:

- A. Argon lasers emit radiation which is highly absorbed by hemoglobin.
- B. The wavelength emitted by a CO₂ laser is visible to the eye.
- C. Instruments used for laser surgery should be nonreflective and nonflammable.
- D. Ideally, PVC endotracheal tubes should not be used during airway surgery.
- E. If an endotracheal tube fire occurs, one should turn off the oxygen, remove the flaming endotracheal tube and extinguish the fire.

42. Which of the following statements concerning preparation of patients for adenotonsillectomy is FALSE?

- A. Risk of postoperative nausea and vomiting is higher
- B. Using laryngeal mask is contraindicated.
- C. Signs of airway obstruction should be looked for.
- D. The procedure should be postponed if signs of upper respiratory infection or tonsillitis are present.
- E. The possibility of congenital anomalies in children with obstructive sleep apnea should be considered.

43. In patients undergoing tonsillectomy, which of the following is TRUE?

- A. Patients with a normal airway assessment and a history of obstruction during sleep should undergo an awake intubation.
- B. Standard doses of hypnotics, analgesics, and anesthetics should be used for patients with a history of sleep apnea.
- C. The patient presenting for tonsillectomy should be considered to have a full stomach.
- D. Only short-acting muscle relaxants should be used, to avoid having to use reversal agents.
- E. The "tonsil position" can help prevent post-extubation laryngospasm.

44. All of the following statements are true regarding post tonsillectomy bleeding EXCEPT:

- A. The second most common period of bleeding is 5 to 10 days postoperatively.
- B. Rapid sequence with pentothal is the induction of choice.
- C. Two working IV lines should be established.
- D. The amount of blood loss is difficult to be estimated.
- E. Blood transfusion may be necessary.

45. Concerning the oculo-cardiac reflex, all the following are true EXCEPT:

- A. Is a trigemino-vagal reflex
- B. Commonly occurs during traction on the medial rectus muscle of the eye
- C. Rarely happens during performance of retrobulbar block
- D. Common during pressure on the eyeball
- E. Hypoxia and hypercarbia do not exacerbate the reflex

46. Major complications associated with TURP include all the following EXCEPT:

- A. Hypothermia
- B. Septicemia
- C. DIC
- D. Hypernatraemia
- E. Bladder perforation

47. The electrolyte and acid-base imbalance seen in end-stage renal failure includes:

- A. Metabolic alkalosis
- B. A fall in serum magnesium
- C. A rise in serum phosphate
- D. A rise in serum calcium
- E. A fall in serum potassium

48. Regional cerebral metabolism is increased by

- A. Halothane
- B. Mannitol
- C. Pain
- D. Ketamine
- E. Sodium thiopentone.

49. In the diagnosis of brainstem death:

- A. Consultation with a neurologist is needed
- B. An EEG must be flat for 24 hours
- C. Convulsions pre-empt the diagnosis
- D. Spinal reflexes may be present
- E. Blood must be sent for drug screening.

50. In L5–S1 disc prolapse with sciatica in the right leg:

- A. Loss of the knee jerk occurs on the right
- B. Loss of sensation in the medial right calf occurs
- C. Incontinence requires further surgical intervention
- D. Plaster of paris cast is the preferred early treatment
- E. Scoliosis is commonly associated.

51. Following a head injury, signs which suggest the need for urgent craniotomy include:

- A. Reduced conscious level
- B. Dilated pupil
- C. Hypotension
- D. Convulsions
- E. CSF rhinorrhoea.

52. A patient with paraplegia of recent onset with injury at T4 may have any of the followings EXCEPT:

- A. Hypotension on IPPV
- B. Adductor spasm
- C. Bradycardia
- D. Hypothermia
- E. Urinary retention.

53. To deal urgently with fractures of the mandible and/or maxilla, all should be considered EXCEPT:

- A. Other associated system injuries
- B. Suctioning of blood and debris from the oropharynx
- C. Rapid sequence induction of anaesthesia
- D. No possibility to postpone surgery
- E. Treatment of present shock before induction of anaesthesia

54. All of the following is true concerning Monitoring neuromuscular blockade EXCEPT:

- A. The stimulator should deliver a current of 60-70 mA
- B. There should be no fade with a 5 second tetanic stimulus in an unparalysed patient
- C. Fade is a feature of non depolarising blockade
- D. Head lift is a good clinical indicator of post-operative recovery of neuromuscular function
- E. Persisting suxamethonium blockade can be excluded if the train-of-four pattern shows fade

55. All of the following are true regarding epidural haematoma EXCEPT:

- A. Most common in thoracic region.
- B. Old age increases the chances of epidural haematoma.
- C. Epidural haematoma usually presents itself after 6-12 hrs of an epidural.
- D. Magnetic resonance imaging is the investigation of choice.
- E. Occurs more with patients on anticoagulants

56. Regarding local anaesthetic agents, All of the following are true EXCEPT:

- A. The potency of LAs is proportional to their lipid solubility
- B. The duration of action is dependent on protein binding
- C. Agents with low pKa have a faster onset of action
- D. All local anaesthetics are vasodilators
- E. The depth of local anaesthetic block is increased by increasing the dose

57. All the following are approximate equivalent levels for spinal segment and vertebral body

EXCEPT:

- A. C8 and C7
- B. T6 and T4
- C. T12 and T9
- D. L5 and T12
- E. S1 and S3.

58. All the followings could be complications of the spinal anaesthesia EXCEPT:

- A. Headache
- B. Meningitis
- C. Hallucination
- D. Hypotension
- E. Bradycardia

59. All of the following causes increase in reading of ETCO₂ EXCEPT:

- A. Decreased tidal volume
- B. Decreased respiratory rate
- C. CO₂ absorber exhausted
- D. Pulmonary embolism
- E. Fever

60. A 21-year-old patient reports tingling in her thumb during cesarean section under epidural anaesthesia . To which dermatomal level would this correspond?

- A. C4
- B. C5
- C. C6
- D. C7
- E. C8

61. How much local anesthetic should be administered per spinal segment to patients between 20 and 40 years of age receiving epidural anesthesia?

- A. 0.3 to 0.5 mL
- B. 0.5 to 1.0 mL
- C. 1 to 1.5 mL
- D. 1.5 to 2 mL
- E. 2 to 2.5 mL

62. Which of the following would have the greatest effect on the level of sensory blockade after a subarachnoid injection of 5% lidocaine?

- A. Coughing during placement of the block
- B. Addition of epinephrine to the local anesthetic solution
- C. Barbotage
- D. Patient weight
- E. Patient position

63. Severe hypotension associated with high spinal anesthesia is caused primarily by:

- A. Decreased cardiac output secondary to decreased preload
- B. Decreased systemic vascular resistance
- C. Decreased cardiac output secondary to bradycardia
- D. Decreased cardiac output secondary to decreased myocardial contractility
- E. Increased shunting through arterioles

64. Regarding defibrillation, all of the following are true EXCEPT:

- A. The greater the time interval between onset of ventricular fibrillation and defibrillation, the less is the success rate
- B. 10-40 Joules should be applied to the heart if the chest is opened
- C. Paddles size is 11 x 8 cm
- D. Defibrillation is most effective when shocked during inspiration
- E. The myocardium is refractory to defibrillation in hypothermia

65. Regarding defibrillation of the heart, all are true EXCEPT:

- A. The Capacitor is an important component of the machine
- B. The amount of current flowing through the heart depends on the energy of the shock and the transthoracic impedance
- C. Electrode pad size is an important determinant of transthoracic current flow
- D. The optimum duration of the output waveform is more than 22 sec.
- E. The output waveform of most recent external defibrillators is biphasic

66. Aldrete recovery score, all of the followings are true EXCEPT:

- A. Is used to assess the patients prior to discharge from the recovery room
- B. A minimum score of 9 is required to discharge the patient
- C. The blood pressure measurement is part of the scoring
- D. All patients should have a saturation more than 96% before discharge
- E. Patients respiration, circulation, consciousness, activity and color are the evaluated items in this score

67. All of the followings are true in resuscitating a drowning victim EXCEPT:

- A. Remove the victim from water in a horizontal position
- B. Resuscitation should be considered even if the patient has been submersed in cold water for 10 minutes
- C. Ventilation should never be attempted if the victim is still in water
- D. Consider cervical spine injury if there is a history of diving
- E. Rescue breathing can be initiated whilst the victim is still in shallow water

68. In the postresuscitation care of the patient you saved from drowning, all of the followings are true EXCEPT:

- A. Prophylactic antibiotic therapy should be given
- B. There is no difference in the treatment of victims of fresh or sea water drowning
- C. Barbiturates use could improve the outcome
- D. Hypothermia may develop, and provides protection
- E. ICP monitor is indicated, but has not shown to alter the outcome

69. You arrived at the bedside 4 minutes after the cardiac arrest of a 70 kg woman. An IV line is in place and there is no pulse. The ECG confirms asystole. Two nurses are performing CPR competently. You would recommend:

- A. Delivery of a 360 J shock
- B. Sodium bicarbonate 500 mmol IV
- C. Calcium Chloride 5 ml 10% solution IV
- D. Adrenaline 1 mg IV
- E. Atropine 3 mg IV

70. During intraoperative temperature monitoring all of the following are true EXCEPT:

- A. The difference between core and skin temperature gives some indication of peripheral perfusion.
- B. Upper esophageal temperature measurement is affected by the temperature of inspired gases.
- C. It is accurate in lower esophagus.
- D. Rectal temperature is a good site to monitor the core temperature
- E. The most common way of heat loss is by conduction.

71. Using the thermal dilution technique for the measurement of cardiac output all are true EXCEPT:

- A. Erroneous results will occur in patients with an intra cardiac shunt
- B. Recirculation does not influence the measurement
- C. Arterial puncture is necessary
- D. The measurements may be repeated frequently
- E. Blood sample is unnecessary

72. Following a day case procedure under general anesthesia ,which of the following is NOT a criterion for approval of discharge from the day surgery unit ?

- A. Able to ambulate unassisted
- B. No pain or mild pain controllable with oral analgesia
- C. Available caregiver for 24 hours
- D. No bleeding or minimal bleeding or wound drainage
- E. Stable vital signs for one hour

73. A 55 year old patient undergoes a total hip arthroplasty under epidural anesthesia. She receives post-operative epidural analgesia. On post-op day one she develops weakness of her lower extremities, associated with sensory changes. Appropriate action at this time includes:

- A. Reassure the patient and re-evaluate the next morning
- B. Pull the catheter out
- C. Add local anesthetic
- D. Obtain magnetic resonance imaging
- E. Add fentanyl

74. Cerebral vascular resistance is reduced by all the following drugs EXCEPT

- A. Halothane
- B. Enflurane
- C. Isoflurane
- D. Desflurane
- E. Thiopentone.

75. The pressor response to intubation may be attenuated by all the following drugs EXCEPT :

- A. Calcium-channel blockers
- B. Thiopentone
- C. Fentanyl
- D. Angiotension-converting enzyme inhibitors
- E. Bbeta-blockers.

GOOD LUCK

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1. The oculocardiac reflex is prevented by all the following EXCEPT :
 - A. Atropine
 - B. Small increments of isoprenaline
 - C. Retrobulbar block
 - D. Deep anaesthesia
 - E. Avoidance of traction on extraocular muscles.
2. Concerning analgesic drug select the true:
 - A. Indomethacin is an addictive drug
 - B. Paracetamol causes gastric irritation
 - C. Unionised acetylsalicylic acid is absorbed more readily than the ionized form
 - D. The analgesic properties of indomethacin are best seen when pain is associated with inflammation
 - E. Phenylbutazone is the drug of choice for headache
3. Following intravenous thiopentone and suxamethonium, causes of lack of muscle relaxation include all the following EXCEPT :
 - A. Drug interaction
 - B. Subcutaneous inactivation
 - C. Porphyria
 - D. Malignant hyperpyrexia
 - E. Myotonia congenita.
4. Increased cholinesterase activity has been associated with all the following EXCEPT
 - A. Obesity
 - B. Alcoholism
 - C. Burns
 - D. Thyrotoxicosis
 - E. Nephrosis
5. Which of the following agents may be used safely in a patient with asthma
 - A. Thiopentone
 - B. Ketamine
 - C. Atracurium
 - D. Suxamethonium
 - E. Propranolol
6. Which of the following Opioids is currently NOT approved for epidural or intrathecal use?
 - A. Remifentanil
 - B. Sufentanil
 - C. Morphine
 - D. Fentanyl
 - E. Tramadol
7. For which of the following patients would Ketamine be LEAST appropriate as an induction agent?
 - A. 39 year old woman with acute asthma exacerbation for emergency appendectomy
 - B. 70 year old woman with cardiac tamponade for emergency thoracotomy
 - C. 50 year old woman with glaucoma for elective cataract surgery
 - D. 55 year old man with mild renal insufficiency and diverticulitis for sigmoid resection
 - E. 7 year old child without intravenous access for elective tonsillectomy

8. Regarding the use of tourniquets in the theatre environment, the following statements are true EXCEPT:

- A. Exsanguination and tourniquet inflation is associated with immediate rise in central venous pressure, arterial blood pressure and heart rate
- B. After two hours' inflation time, a significant decrease in core temperature can be expected on deflation of the tourniquet
- C. Pre-inflation, ketamine 0.25 mg/kg intravenously can prevent the hypertensive response to tourniquets
- D. When using a double-cuff tourniquet for intravenous regional anesthesia the proximal cuff is the first to be used
- E. If the continuous tourniquet inflation time exceeds two hours, the ischaemic cell damage and lesions associated with acidosis are irreversible

9. In severe anaphylaxis under anesthesia, which of the following is MOST COMMONLY the first to be detected?

- A. Flushing of the skin
- B. Facial edema
- C. Desaturation
- D. Difficulty in ventilating
- E. Hypotension

10. Regarding positioning a patient prone under anesthesia, which one of the following statements is TRUE?

- A. In one configuration, shoulder and abdominal rolls allow adequate chest excursion
- B. The pleural pressure gradient is considerably increased when prone, compared with supine
- C. When optimally positioned, the prone patient will virtually always have an increased cardiac index
- D. One of the few advantages of partial inferior vena cava obstruction is reduced blood loss during lumbar spinal surgery
- E. Blindness is a recognized complication

11. Problems during a laparoscopic cholecystectomy include all EXCEPT:

- A. Fall in cardiac output with an intra-abdominal pressure of above 15 mmHg
- B. Acidosis and hypercarbia in patients with cardiovascular disease after CO₂ insufflation
- C. Stress response significantly less than with open cholecystectomy
- D. Increased incidence of regurgitation
- E. Pneumothorax

12. Rapid transfusion of cold bank blood heated to 37 deg. C causes all of the followings EXCEPT:

- A. Decrease in arterial carbon dioxide tension
- B. Decrease in citrate toxicity
- C. Increase in serum potassium
- D. Reduction in serum calcium
- E. Reduction in pulse pressure

13. In a patient with a healthy heart transplant undergoing elective non-cardiac surgery:

- A. A resting heart rate of 50 beats/min is normal
- B. The cardiovascular response to laryngoscopy is absent
- C. Atropine will cause a tachycardia
- D. Isoprenaline is the chronotrope of choice
- E. Anti-rejection therapy should be stopped preoperatively

14. Regional anesthesia techniques that can be used for forceps deliveries include all of the following EXCEPT

- A. Bilateral pudendal block
- B. Paracervical block
- C. Subarachnoid block
- D. Caudal block
- E. Epidural block

15. During emergency caesarean section under general anesthesia, the obstetrician is having difficulty in extracting the infant and requests to have uterine relaxation. Which of the following can help in providing uterine relaxation?

- A. Intravenous or sublingual glyceryltrinitrate (GTN).
- B. Intravenous lidocaine.
- C. Intravenous Oxytocin.
- D. Intravenous Cis-atracurium.
- E. Intravenous Ergotamine.

16. The most common early sign of amniotic fluid embolism (AFE) following a normal vaginal delivery is:

- A. Hypertension.
- B. Seizure.
- C. Skin rash.
- D. Abnormal bleeding.
- E. Cyanosis.

17. In a fit pregnant woman (14 week gestation) undergoes general anesthesia for emergency appendectomy, which is true?

- A. Vasoconstrictor drugs with pure alpha effect should be avoided .
- B. Higher vapor concentration is required to induce anesthesia
- C. A dramatic fall in BP could be due to aortocaval compression
- D. Non-steroidal anti-inflammatory drugs are contraindicated
- E. Neostigmine is likely to cause fetal bradycardia

18. Regarding early deceleration, one of the following statements is true:

- A. It is associated with fetal head compression.
- B. There is severe fetal hypoxia.
- C. O₂ is helpful in this type.
- D. It is associated with umbilical cord compression.
- E. It is associated with uteroplacental insufficiency.

19. Regarding overdose, haemodialysis would be effective in removing one of the following drugs

- A. Digoxin
- B. Pethidine
- C. Amitriptyline
- D. Propranolol
- E. Salicylate

20. The following poisons are matched to the appropriate therapy EXCEPT

- A. Carbon monoxide—hyperbaric oxygen
- B. Organophosphates—atropine and pralidoxime
- C. Beta-blocker—phentolamine
- D. Methanol—ethanol
- E. Tricyclic antidepressants—phenytoin

21. The oxyhaemoglobin dissociation curve describes the relationship of oxygen saturation to oxygen tension. All of the following are true EXCEPT:

- A. At an oxygen tension of 60 mmHg, the saturation is approximately 90%
- B. The curve is shifted to the left with a more acid pH
- C. The curve is shifted to the right with an increase in carbon dioxide tension
- D. The curve is shifted to the left with a decrease in temperature
- E. The curve is shifted to the right with increased levels of 2,3-DPG

22. Hypoxic pulmonary vasoconstriction

- A. Is not important in the intact human being
- B. Is active only at high altitude
- C. Causes more blood flow to the base of the lung
- D. Causes higher dead space/tidal volume ratio (VD/VT) than in the non-hypoxic lung
- E. Diverts blood flow from hypoxic to non-hypoxic lung areas

23. The work of breathing

- A. Is increased in the anaesthetised patient breathing spontaneously
- B. Is solely due to airway resistance
- C. Is solely due to elastic forces
- D. Is at its lowest at a respiratory rate of 25 breaths per minute
- E. Is increased in the patient with restrictive disease if the respiratory rate is increased

24. The term P50 in reference to the oxyhaemoglobin dissociation curve

- A. Refers to the position on the curve at which the PO₂ is 50 mmHg
- B. Normally has a value of 27 mmHg
- C. Describes an enzyme system in hemoglobin
- D. Is constant
- E. Is affected only by type of hemoglobin

25. The alveolar-arterial oxygen difference (A-aDO₂)

- A. In healthy adults is about 40 to 80 mmHg
- B. Can be measured directly
- C. Increases with age because of a decrease in arterial oxygen tension
- D. Is a good screening tool for detecting dead space/vital capacity (VD/VT) changes
- E. Is a good screening tool for detecting ventilation/perfusion (V/Q) changes

26. Regarding malignant carcinoid syndrome, the following statements are true EXCEPT:

- A. Malignant carcinoid syndrome occurs in around 50% of those patients with a carcinoid tumor
- B. Fibrosis of heart valves is more commonly seen on the right side of the heart than the left
- C. Carcinoid tumors can produce insulin
- D. For a patient to have malignant carcinoid syndrome they are likely to have liver metastases
- E. Carcinoid tumors originating in the appendix are likely to be benign

27. A previously fit and well 52-year-old patient develops a regular narrow-complex tachycardia in recovery, but is otherwise stable with a blood pressure of 125/85mmHg. You apply oxygen on high flow via a facemask, perform a 12-lead ECG and start carotid sinus massage, which fails to correct the tachycardia. You give adenosine 6mg intravenously, which fails to alter the rhythm, followed by a further adenosine 12mg intravenously, again with no improvement. What would you do next?

- A. Give digoxin 500 mcg intravenously
- B. Give amiodarone 300mg loading dose intravenously
- C. Give verapamil 2.5mg intravenously over two minutes
- D. Give adenosine 12mg intravenously
- E. Perform synchronised DC cardioversion

28. The elderly show an increased response to standard drug dosage and an increased incidence of adverse drug reactions because they have all the following EXCEPT:

- A. Reduced total body water
- B. Reduced renal and hepatic function
- C. Reduced maximum breathing capacity
- D. Decreased lean body mass
- E. Increased baroreceptor sensitivity

29. One of the following statements about the interaction of anaesthetics with other drugs is correct:

- A. A patient taking a monoamine oxidase inhibitor may safely be prescribed pethidine
- B. A patient under treatment for hypertension is liable to hypotension during general anaesthesia
- C. Antiepileptic drugs should be discontinued for a few days before anaesthesia
- D. Diuretic-induced hypokalaemia potentiates neuromuscular blocking drugs
- E. Aminoglycoside antibiotics antagonise neuromuscular blocking drugs.

30. All of the following statements concerning allergic reactions to local anesthetics are true EXCEPT:

- A. True allergic reactions to local anesthetics are rare
- B. Allergic reactions to local anesthetics usually involve a type I reaction
- C. The allergic potential from esters may result from hydrolytic metabolism to para-aminobenzoic acid
- D. Reactions are more common with amide than with ester anesthetics
- E. Added preservatives may provoke an allergic response

31. Chemotherapeutic agents are associated with the following toxicities EXCEPT:

- A. Bleomycin: pulmonary toxicity
- B. Adriamycin: renal and pulmonary toxicity
- C. Most agents cause thrombocytopenia
- D. Vincristine: neurologic toxicity
- E. Cyclophosphamide potentiates the effect of nondepolarizing relaxants

32. In case of anaphylaxis management should include in the first step all the following EXCEPT

- A. All pre-existing drugs, therapy and surgery should stop if possible
- B. Call to help should be sought.
- C. 100% oxygen should be administered
- D. Consideration given to securing an airway by intubation in case of angio-oedema.
- E. Adrenaline is the drug of choice given bolus 1mg IV

33. Which of the following tests are useful during acute investigation of a case of suspected anaphylaxis

- A. Serum histamine
- B. Serum N-methylhistamine
- C. Serum tryptase
- D. Serum IgA
- E. Screening test

34. Radiographic enlargement of the pulmonary artery is seen in all the following EXCEPT

- A. Pulmonary stenosis
- B. Heart failure
- C. Mitral stenosis
- D. Increased pulmonary blood flow
- E. Increased pulmonary vascular resistance

35. All The following cardiovascular changes have occurred at term pregnancy in relation to pre-pregnant values EXCEPT

- A. Cardiac output increased by 20%
- B. Stroke volume increased by 30%
- C. Decreased SVR
- D. Increased heart rate
- E. Decreased mean arterial blood pressure

36. During hip replacement surgery, cardiopulmonary changes associated with the application of acrylic bone cement include all following EXCEPT :

- A. Hypotension secondary to cement monomer absorption
- B. Hypoxemia secondary to air embolization
- C. Hypoxemia secondary to fat embolization
- D. Decreased pulmonary artery pressure
- E. Decreased end-tidal carbon dioxide

37. Aldosterone release is stimulated by all the following EXCEPT

- A. Hypokalemia
- B. ACTH release
- C. Hypovolemia
- D. Hypotension
- E. Congestive heart failure

38. About TURP syndrome which is true :

- A. Is associated with hypokalaemia
- B. May present with convulsions
- C. Is prevented by spinal anaesthesia
- D. Is caused by blood loss
- E. Treatment with diuretics is contraindicated

39. A 31 year old male with known haemophilia A presents with a fracture of his left tibia. As part of the preoperative preparation of this patient ,which one of the following should be administered intravenously ?

- A. FFP
- B. Cryoprecipitate
- C. Recombinant factor VIII concentrate
- D. Recombinant factor IX concentrate
- E. Desmopressin

40. An 82 year old female arrives to the OR for open reduction of a left intratrochanteric fracture medical history includes hypertension ,aortic stenosis and dementia. The most appropriate anesthetic technique for this patient is :

- A. Opioid –based general anesthesia
- B. Spinal anesthesia
- C. Volatile –agent based general anesthesia
- D. Epidural anesthesia
- E. Lumbar block

41. Regional anesthesia for a total knee replacement is advantageous because of all the followings EXCEPT:

- A. It decreases postoperative nausea and emesis by reducing opioid required for pain relief.
- B. It decreases total surgical blood loss.
- C. It is better for post operative pain control
- D. Outcome is the same in regional of general anesthesia
- E. Oxygenation is better with regional anesthesia than with general anesthesia

42. Expected changes in a patient with phaeochromocytoma include one of the following:

- A. A decreased haematocrit
- B. An increased total blood volume
- C. A decreased serum sodium concentration
- D. An abnormal glucose tolerance test
- E. A reduced metabolic rate

43. Afterload reduction is beneficial during anesthesia for noncardiac surgery in patients with each of the following conditions EXCEPT:

- A. Aortic insufficiency
- B. Mitral regurgitation
- C. Tetralogy of Fallot
- D. Congestive heart failure
- E. Patent ductus arteriosus

44. As part of a preoperative evaluation, a patient has a thallium scan showing a "cold spot" over the left ventricle that occurs with moderate exercise and disappears at rest. This most likely indicates:

- A. Moderate-sized aneurysm of the left ventricle
- B. Acute myocardial ischaemia
- C. Recent myocardial infarction
- D. Old myocardial infarction
- E. Prinzmetal's variant angina

45. Compared with adults, caudal anaesthesia in children is associated with:

- A. Higher risk for subarachnoid puncture
- B. More severe hypotension
- C. More rapid onset of sensory block
- D. Smaller volume of anaesthetic per kilogram of body weight
- E. Toxic effects at lower serum levels of bupivacaine

46. Following a vaginal hysterectomy in the lithotomy position under general anesthesia, a patient has numbness of the lateral aspect of the left calf and medial half of the dorsum of the left foot. On physical examination she has foot-drop and the toes cannot be extended. Which nerve is most likely to be involved?

- A. Common peroneal nerve
- B. Deep peroneal nerve
- C. Posterior tibial nerve
- D. Saphenous nerve
- E. Sciatic nerve

47. During the first stage of labour, the pain of uterine contractions and cervical dilatation is transmitted via the spinal cord segments:

- A. T6 to L1
- B. T6 to S5
- C. T10 to L1
- D. T10 to S1
- E. T10 to S5

48. Which of the following is the most appropriate drug to treat hypotension in patients with asymmetric septal hypertrophy (HOCM)?

- A. Amrinone
- B. Calcium chloride
- C. Dopamine
- D. Ephedrine
- E. Phenylephrine

49. A 38-year-old woman with hyperthyroidism is undergoing open reduction and internal fixation of a fractured humerus with isoflurane anaesthesia. Intraoperatively her heart rate increases to 120 bpm with occasional premature ventricular contractions. The most appropriate therapy at this time is to:

- A. Discontinue isoflurane
- B. Administer edrophonium
- C. Administer esmolol
- D. Administer lidocaine
- E. Administer propylthiouracil

50. In patients with pregnancy-induced hypertension, magnesium sulfate is most likely to:

- A. Decrease maternal heart rate
- B. Decrease sensitivity to relaxants
- C. Decrease succinylcholine-induced fasciculations
- D. Prevent hypokalaemia
- E. Produce foetal bradycardia

51. Compared with epidural morphine, intrathecal morphine produces:

- A. Better relief of visceral pain
- B. Greater loss of analgesia after administration of naloxone
- C. Less pruritus
- D. Less urinary retention
- E. More respiratory depression

52. A 19-year-old woman receives a spinal anaesthetic for a repeat caesarean delivery. Two days later she is afebrile but has severe occipital pain that is aggravated by sitting or standing and relieved by lying flat. Associated findings would likely include:

- A. Bradycardia
- B. Difficulty swallowing
- C. Diplopia
- D. Facial pain
- E. Horner's syndrome

53. All the following are true, concerning congenital diaphragmatic hernia, EXCEPT:

- A. The degree of hypoplastic lung tissue is an important indicator for prognosis.
- B. Awake intubation is a good choice.
- C. Positive pressure ventilation is a good choice.
- D. Pneumothorax in the contralateral side is a frequent complication.
- E. The presenting symptoms include respiratory distress, cyanosis, and scaphoid abdomen.

54. All of the following regarding Allergic reactions are correct EXCEPT:

- A. A single allergen will cause a single type of Hypersensitivity reaction.
- B. Anaphylaxis is an example of type I hypersensitivity reaction.
- C. Complement activation takes place in type I & II hypersensitivity reactions.
- D. Chronic hypersensitivity pneumonitis is an example of type IV hypersensitivity reaction.
- E. Allergic reactions due to anesthetic drugs are mostly anaphylactoid

55. Which of the following is CORRECT regarding Carotid endarterectomy surgery?

- A. It is usually associated with significant blood loss and fluid shifts.
- B. The possibility of bradycardia is abolished by infiltration of the carotid sinus with lidocaine.
- C. If hoarseness and tongue deviation occur postoperative, they usually take long time to disappear.
- D. Regional anesthesia provides better airway control conditions than general anesthesia for this type of surgery.
- E. The outcome after either regional or general anesthesia appears similar.

56. All the following statements are true concerning administration of N₂O for maintenance of anesthesia in ear surgery EXCEPT :

- A. It can result in an increase in middle ear pressure
- B. Under normal circumstances it is easily vented through the Eustachian tube
- C. It may cause tympanic membrane rupture
- D. It should be discontinued 5 minutes before placement of the graft in tympanoplasty
- E. It is better to avoid using N₂O in ear surgery

57. All the followings occur in bone cement implantation syndrome EXCEPT :

- A. Hypotension
- B. Hypoxia
- C. Pulmonary hypertension
- D. Arrhythmias
- E. Hypercapnia

58. Regarding Intraoperative hypothermia , all of the following are true EXCEPT:

- A. It can be prevented by providing a local warm environment for the patient by the use of forced air-warming devices .
- B. It can decrease blood viscosity.
- C. Severe shivering can increase oxygen consumption by more than 200%.
- D. Ventricular fibrillation can happen at 28 deg. C.
- E. Hypothermic patients will have more tendency to bleed than normo-thermic patients

59. All of the following medications were found to prolong the duration of caudal blocks in children when added to bupivacaine EXCEPT:

- A. Neostigmine
- B. Clonidine
- C. Glycopyrrolate .
- D. Dexmeditomidine
- E. Ketamine.

60. The use of the peripheral nerve stimulator is based on:

- A. Coulomb's law
- B. Newton's law
- C. Poisseulle's law
- D. Charles' law
- E. Boyle's Law

61. One of the following patients is fit to be operated as outpatients surgery:

- A. Patients having upper respiratory tract infection with fever
- B. Premature infants of 34 weeks postconceptual age
- C. Obese patients with no comorbidity
- D. Patients with uncontrolled diabetes
- E. Patients with pulsus bigeminy

62. The followings are true for Electroconvulsive Therapy (ECT) EXCEPT:

- A. Sedative premedication is favorable before induction of anesthesia
- B. Uncontrolled hypertension is a contraindication
- C. ECG changes are expected
- D. High intracranial pressure (ICP) is an absolute contraindication for the procedure
- E. A mouth gag should be placed to protect the gums and lips from biting

63. A 3 year old child undergoing CT scan for the diagnosis of an intracranial tumor. The anesthetist planned to give Chloral Hydrate. All of the followings are true about Chloral hydrate EXCEPT:

- A. The oral dose is 30-50 mg/kg
- B. The rectal dose is 30-50 mg/kg
- C. The drug should be given 30-60 min before the procedure
- D. In sedative dose, no respiratory depression is caused by the drug
- E. There is about 50% failure rates to prevent movement during the procedure

64. Of the following possible complications of electro-convulsive therapy (ECT) the most common is:

- A. Dental damage.
- B. Aspiration pneumonitis.
- C. Bronchospasm.
- D. Laryngospasm.
- E. Hypertension

65. Concerning chronic pain which one is false:

- A. Allodynia is pain from a stimulus that is normally painful
- B. Hyperalgesia is increased pain from a normally painful stimulus.
- C. Hyperesthesia means increased sensitivity to a sensory stimulus
- D. Dysesthesia is any abnormal unpleasant sensation
- E. Hyperesthesia include allodynia and hyperalgesia

66. Concerning nerve conduction one is false:

- A. A-delta fibres are the slowest as they are unmyelinated
- B. A-beta fibres exhibit saltatory conduction
- C. C- fibres are unmyelinated
- D. A-alpha fibres conduct at 70-120 m/s
- E. A-gamma fibres are motor to muscle spindles.

67. All the following are complications of interscalene block EXCEPT

- A. Vertebral artery injection
- B. Hoarseness
- C. Pneumothorax
- D. Total spinal anesthesia
- E. Horner's syndrome

68. Regarding post-herpetic neuralgia, which of the following statement is FALSE?

- A. It follows acute herpes zoster infection in most instances.
- B. NSAID's are very effective in relieving pain.
- C. Amitriptyline is a first line drug.
- D. It is hard to treat once established.
- E. Gabapentin is a good choice

69. Which of the following brachial plexus neural blocks would MOST likely require supplemental anesthesia for medial wrist surgery?

- A. Interscalene block
- B. Infraclavicular block
- C. Axillary block
- D. Supraclavicular block
- E. Humeral block

70. A previously fit 5-year-old girl is distressed and in severe pain in the recovery room following emergency appendicectomy. She is awake and cardiovascularily stable.

Intraoperatively, she received fentanyl 2 mcg/kg iv, paracetamol 15 mg/ kg iv and diclofenac 1mg/kg . What would be the most appropriate analgesia option for her now?

- A. Adminster Entonox until the child calms down
- B. Codeine phosphate 1 mg/ kg orally
- C. Codeine phosphate 1 mg/ kg intramuscularly
- D. An intravenous morphine infusion at 10 mcg/ kg/ hour
- E. Morphine 0.1 mg/ kg intravenous bolus

71. The most common complication of thoracic paravertebral nerve block is:

- A. Hypotension
- B. Subarachnoid injection
- C. Epidural injection
- D. Intravascular injection
- E. Pneumothorax

72. About burns fluid replacement, choose the best single answer

- A. Parkland formula involve only 0.9%saline for the first 24 hours
- B. The Brook formula involve only colloid for the first 24 hours
- C. Fluid management in burns is based on these formula and don't need clinical assessment
- D. These formula are a guide only
- E. A 75kg male adult with 40% BSA burns using the Parkland formula should receive 6 L of crystalloid for the first 24 hours

$4 \times 2.5 \times 0.4 = 12.5 \text{ ml}$
 $60 \text{ minutes} / 12.5 \text{ ml} = 4.8 \text{ L}$

73. In burn, early intubation is required to treat all the following causes of respiratory dysfunction EXCEPT:

- A. CO poisoning
- B. Upper airway edema
- C. Subglottic thermal and chemical burns
- D. Chest wall restriction
- E. Face and neck contractures

74. Concerning anesthesia for ENT surgery, which of the following statements is the most correct

- A. For microlaryngoscopy an MLT tube must be used all the time
- B. For endoscopic sinus surgery, the eyes must be taped and padded
- C. Carbon dioxide lasers have the capacity to ignite endotracheal tube
- D. In myringoplasty using an overlay graft, nitrous oxide is beneficial
- E. In parotidectomy, neuromuscular blockade is recommended

75. Cerebral blood flow is increased by all of the following EXCEPT:

- A. Hypercapnia and hypoxia
- B. Volatile anesthetic agents
- C. Ketamine
- D. Hyperthermia
- E. Critically high ICP

GOOD LUCK